

Application No.: 09/600,073

Docket No.: 21029-00205-US

REMARKS

In view of the above amendment, applicant believes the pending application is in condition for allowance.

The Office Action and prior art relied upon have been carefully considered. In an effort to expedite the prosecution of the present application, independent claims 11 and 16 have been amended so that it is quite clear that the apparatus and method of the present invention combines very high spatial resolution and a field of investigation covering both the anterior and posterior segments of an ocular globe. As will become clear from the following discussion of the prior art, these distinctions completely differentiate the presently claimed invention as compared with the prior art.

Claims 11-16 and 19-21 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Iezzi (U.S. Patent No. 5,551,432) in view of Reinstein et al. (U.S. Patent No. 5,293,871) and Ritter (U.S. Patent No. 6,059,728), alone or further in view of Wallace et al. (U.S. Patent No. 5,165,415).

Claims 17 and 18 have been rejected under 35 U.S.C. 103(a) as being unpatentable over Iezzi in view of Reinstein et al. and Ritter and further in view of Wallace et al. as previously applied and further in view of Kossoff (U.S. Patent No. 4,167,180).

First, it must be noted that the invention relates to means for the investigation and display, using ultrasound echography techniques of tissue structures of human or animal origin.

It particularly relates to the use of high frequency and long focal length for the investigation and display of: the posterior segment of ocular globes, i.e., the vitreous cavity, the posterior wall of the globe lined by the choroid and the retina and the macula, and the anterior segment (the cornea, the anterior chamber, the iris and the crystalline lens).

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For such an investigation and display, the prior art teaches the use of low frequency for investigating and displaying the posterior segment and the use of high frequency for investigating and displaying the anterior segment.

Thus, Iezzi teaches the use of high frequency (50 to 100 MHz, column 1, lines 27-28) for distances of 2, 4, 5 or 14 mm (column 2, line 45). The posterior segment cannot be examined at such distances.

In column 4, lines 7-9, it is stated that "the length of scan in the Z direction is not limited, but a length of 15 mm has been useful in eye examinations". The retina cannot be examined using such conditions.

Reinstein et al. disclose a system for determining corneal layer thickness and shape. Investigation and display of the retina is not disclosed and cannot be performed using the conditions disclosed by Reinstein et al. (short focal length and high frequency).

Ritter relate to a three-dimensional ultrasound imaging system and probe for visualization, for example, of posterior ocular structures. There is no mention of the use of high frequency.

Wallace et al. disclose an ultrasonic instrument using low frequency (10 MHz) for measuring the axial length, i.e., from the cornea to the retina and an ultrasonic instrument using high frequency (20 MHz) to measure cornea thickness.

The first instrument works as a biometer at 10 MHz (column 2, line 68) and the second instrument as a pachymeter at 20 MHz to measure the thickness of the cornea (column 3, line 31 and column 4, line 6).

There is no teaching by Wallace et al. of an exploration with a single instrument to examine the anterior segment and the posterior segment.

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Kossof et al. disclose a method and apparatus for ultrasonic examination by an arcilar ("arciforme" in French) scanning. There is no teaching of the above-mentioned claimed features.

To summarize, said documents do not teach the use of a high frequency ultrasound (30 to 100 MHz) probe combining both very high spatial resolution and a field of investigation covering the anterior and posterior segments of the ocular globe.

For the reasons set forth, the presently amended application is believed to clearly differentiate the invention from the cited prior art.

Reconsideration of the application and a favorable action thereon is courteously solicited.

The Commissioner is hereby authorized to charge any fees, or credit any overpayment, associated with this communication, including extension fees, to CBLH Deposit Account No. 22-0185, under Order No. 21029-00205-US from which the undersigned is authorized to draw.

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Respectfully submitted,

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